

ABSTRACT OF THE DISCLOSURE

Formation of solid-water detoxifying reagents for chemical and biological agents. Solutions of detoxifying reagent for chemical and biological agents are coated using small quantities of hydrophobic nanoparticles by vigorous agitation or by aerosolization of the solution in the presence of the hydrophobic nanoparticles to form a solid powder. For example, when hydrophobic fumed silica particles are shaken in the presence of IN oxone solution in approximately a 95:5-weight ratio, a dry powder results. The hydrophobic silica forms a porous coating of insoluble fine particles around the solution. Since the chemical or biological agent tends to be hydrophobic on contact with the weakly encapsulated detoxifying solution, the porous coating breaks down and the detoxifying reagent is delivered directly to the chemical or biological agent for maximum concentration at the point of need. The solid-water (coated) detoxifying solutions can be blown into contaminated ventilation ducting or other difficult to reach sites for detoxification of pools of chemical or biological agent. Once the agent has been detoxified, it can be removed by flushing the area with air or other techniques.